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PROVISIONAL SPECIFICATION.

A Process for Preserving Alimentary Substances.

I, JOHN IMRAY, of No. 28 Southampton Buildings, in the County of London, Consulting Engineer and Chartered Patent Agent, do hereby declare the nature of this invention to be as follows:—

The processes hitherto adopted for preserving alimentary substances are objectionable because they require either too high temperatures or too many repetitions of treatment at moderate temperatures, and in the latter case give uncertain results. This invention, which has for its object to overcome these difficulties, is based on the following observations:—

The organisms which damage and destroy preserved substances are, in the case of fruits, mould, and in the case of meat, are the bacteria which start butyric fermentation. As mould requires air the cases containing preserved fruit should have air excluded the fruits themselves have sufficient acid to render inactive the lactic and butyric ferments which are developed in meat owing to the absence of sufficient acid. Thus by providing an acid medium for meat and exclusion of air from fruits, conditions are realised unfavourable to the development of putrifying ferments, these conditions being applied, according to this invention in such a manner as to retain the consistence and flavour of the articles treated.

The acids employed are fruit acids, citric, tartaric, and malic, which are applied either pure or in the form of unfermented juices such as lemon juice, or as fermented juices such as wine

The exclusion of air is effected by filling the vessels containing the fruits to be preserved with water that may be saturated with carbonic acid, and filling those containing meat with juices giving the required acidity. When delicacy of flavour or aroma is to be maintained for certain fruits or for truffles or mushrooms, the vessels containing them should be charged with carbonic acid which has antiseptic properties adding to the preserving effects of heat and acid medium.

For preserving fresh meat, by way of example, it is first slightly roasted and seasoned with from 1 to 3 parts per thousand of the acids above mentioned. It is then put in cases which are filled with carbonic acid and hermetically sealed, and then heated 5 or 6 times to a temperature of 45° to 55° C.

For preserving fruits, they may be put in cases raw, but some of them require a little cooking, which may be done by heating them to 60° C. before or after putting them in cases, which are filled either with water, or with sweetened, acidulated or aërated water or with carbonic acid. After the cases are hermetically sealed they are heated 3 times to 50° C. or 5 or 6 times to 45° C.

Whether the germs are destroyed or not by the process described, they are at least prevented from acting prejudicially.

Dated this 18th day of February 1897.

ABEL & IMRAY,
Agents for the Applicant.

[*Price 8d.*]

COMPLETE SPECIFICATION.

A Process for Preserving Alimentary Substances.

I, JOHN IMRAY, of Birkbeck Bank Chambers, Southampton Buildings, in the County of London, Consulting Engineer and Chartered Patent Agent, do hereby declare the nature of this invention (as communicated to me from abroad by La Société Anonyme des Matières Colorantes et Produits Chimiques de St Denis and Daniel Auguste Rosenstiehl, both of 105 Rue Lafayette, Paris, France,) and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement:—

The processes hitherto adopted for preserving alimentary substances are objectionable because they require either too high temperatures or too many repetitions of treatment at moderate temperatures, and in the latter case give uncertain results. This invention, which has for its object to overcome these difficulties, is based on the following observations:—

The organisms which damage and destroy preserved substances are in the case of fruits, mould, and in the case of meat, are the bacteria which start butyric fermentation. As mould requires air for its production and growth the cases containing preserved fruit should have air excluded, the fruits themselves have sufficient acid to render inactive the lactic and butyric ferments which are developed in meat owing to the absence of sufficient acid. Thus by providing an acid medium for meat and exclusion of air from fruits, conditions are realised unfavourable to the development of putrifying ferments these conditions being applied, according to this invention, in such a manner as to retain the consistence and flavour of the articles treated.

The acids employed are fruit acids, citric, tartaric and malic, which are applied either pure or in the form of unfermented juices such as lemon juice, or as fermented juices, such as wine.

The exclusion of air is effected by filling the vessels, containing the fruits to be preserved, with water that may be saturated with carbonic acid, and filling those containing meat with juices giving the required acidity.

When delicacy of flavour or aroma is to be maintained for certain fruits or for truffles or mushrooms, the vessels containing them should be charged with carbonic acid which has antiseptic properties adding to the preserving effects of heat and acid medium.

For preserving fresh meat, by way of example, it is first slightly roasted and seasoned with from 1 to 3 parts per thousand of the acids above mentioned. It is then put in cases which are filled with carbonic acid and hermetically sealed, and then heated 5 or 6 times to a temperature of 45° to 55° C.

For preserving fruits, they may be put in cases raw, but some of them require a little cooking, which may be done by heating them to 60° C before or after putting them in cases, which are filled either with water, or with sweetened acidulated or aërated water or with carbonic acid. After the cases are hermetically sealed, they are heated 3 times to 50° C or 5 to 6 times to 45° C.

Whether the germs are destroyed or not by the process described, they are at least prevented from acting prejudically.

Having now particularly described and ascertained the nature of this invention and in what manner the same is to be performed, I declare that what I claim is:—

The herein described process for preserving alimentary substances by keeping

them in acid medium adding fruit acid when necessary withdrawing air and substituting for it carbonic acid and repeatedly heating from 45° to 55° C.

Dated this 15th day of October 1897

ABEL & IMRAY,
Agents for the Applicant.

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